



Protecting Biopharma Manufacturing

Introducing Pure-Gard, an innovation in sanitary pressure relief



A **Halma** company

About Elfab

Dedicated to protecting the lives of your people and safeguarding your critical processes and equipment, Elfab is a leading provider of pressure management solutions for the pharmaceutical industry.



Global Reach

Our specialist global Pharmaceutical Team is supported by two manufacturing facilities, Elfab in North Shields (UK) and Oseco in Broken Arrow (USA), regional sales offices and a network of channel partners dedicated to our Pharmaceutical customers.

Contact Us

To discuss your pressure relief requirements with a member of our Pharmaceutical Team, please contact us:

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Delivering Technology You Can Trust

The unique and complex biopharmaceutical manufacturing environment drives the need for technology you can trust. The launch of Elfab's Pure-Gard introduces a revolutionary solution to protect your processes and equipment.



Pure-Gard

An innovation in sanitary pressure relief

01

Crevice and Dimple Free

The Pure-Gard meets your expectations for cleanability with its crevice and dimple free design. Our rigorous testing programme includes dye penetrant testing, helium leak testing and for additional product verification, development discs were subjected to an independent riboflavin test.



02

Structural Stability

The one-piece design provides protection for the rupture disc, avoiding the risk of damage at the point of installation. Pure-Gard's structural stability also means its performance is unaffected by vent-side pipework loads.



03

Extended Product Life

Pure-Gard provides a solution independent of the gasket, allowing regular change of gaskets, as required. This innovative design feature extends the life of Pure-Gard beyond conventional sanitary pressure relief solutions.



04

Tag Free

The disc information is laser etched on the side, making it easy to read and removing the need for a tag.



05

Reusable Modular Detection

Pure-Gard is designed for use with Elfab's Vent-Tel burst detection system, an independent, reusable, non-invasive solution mounted directly to the Tri-Clamp, making disc inspection and replacement quick and simple.



06

A Range to Suit your Requirements

Pure-Gard is available in a range of sizes and burst pressures to suit your specific requirements. Pure-Gard SoLo is a low pressure variant suitable for use in processes where pressures are as low as 5 psig. Please refer to the technical specification table for detailed information.



Technical Specification

	Pure-Gard			
Product Description	Full metal, non-fragmenting, reverse acting rupture disc. One piece welded			
ASME UD Certification	Yes	Yes	Yes	Yes
Technical Specification				
Size Range inches/mm	1" (25mm)	1-1/2" (40mm)	2" (50mm)	2-1/2" (65mm)
Burst Pressure Range psig/barg	40 psig to 300psig (2.75barg to 20.7barg)	30 psig to 300psig (2.1barg to 20.7barg)	25 psig to 300psig (1.73barg to 20.7barg)	22 psig to 300psig (1.52barg to 20.7barg)
Temperature Range	to 260°C	to 260°C	to 260°C	to 260°C
Operating Ratio	95% of minimum burst	95% of minimum burst	95% of minimum burst	95% of minimum burst
Tolerance	+/- 3%	+/- 3%	+/- 3%	+/- 3%
Vacuum Resistant	Yes	Yes	Yes	Yes
Ra Value	0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)
Kr Value	1.74	1.74	1.74	1.74
L/D Ratio	0.45	0.36	0.32	0.35
Typical Overall height	34mm	37mm	39mm	45mm

	Pure-Gard SoLo			
Product Description	Full metal, non-fragmenting, reverse acting rupture disc. One piece welded assembly. Suitable			
ASME UD Certification	Available from December 2019			
Technical Specification				
Size Range inches/mm	1" (25mm)	1-1/2" (40mm)	2" (50mm)	2-1/2" (65mm)
Burst Pressure Range psig/barg	18psig to 75psig (1.24barg to 5.2barg)	14psig to 75psig (1barg to 5.2barg)	10psig to 50psig (0.7barg to 3.4barg)	7psig to 50psig (0.5barg to 3.4barg)
Temperature Range	to 260°C	to 260°C	to 260°C	to 260°C
Operating Ratio	95% of minimum burst	95% of minimum burst	95% of minimum burst	95% of minimum burst
Tolerance	+/- 3%	+/- 3%	+/- 3%	+/- 3%
Vacuum Resistant	Yes	Yes	Yes	Yes
Ra Value	0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)
Kr Value	TBC	TBC	TBC	TBC
L/D Ratio	0.36	0.23	0.32	0.15
Typical Overall height	34mm	37mm	39mm	45mm



assembly.	
Yes	Yes
3" (80mm)	4" (100mm)
20 psig to 300psig (1.38barg to 20.7barg) to 260°C	20 psig to 300psig (1.38barg to 20.7barg) to 260°C
95% of minimum burst +/- 3%	95% of minimum burst +/- 3%
Yes	Yes
0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)
1.74	1.74
0.34	0.31
49mm	54mm

for low pressure applications.	
3" (80mm)	4" (100mm)
6psig to 40psig (0.4barg to 2.8barg) to 260°C	5psig to 40psig (0.3barg to 2.8barg) to 260°C
95% of minimum burst +/- 3%	95% of minimum burst +/- 3%
Yes	Yes
0.4Ra (micrometres) (16 micro-inches)	0.4Ra (micrometres) (16 micro-inches)
TBC	TBC
0.14	0.1
49mm	54mm

Process Capability
 Pure-Gard and Pure-Gard SoLo are suitable for use in almost any single and multi-phase processes including gases, vapours and liquids.

Material Availability
 Standard materials; 316L stainless inlet, 316L stainless disc assembly, 316L stainless outlet. Other material combinations are available including Hastelloy®, Inconel®, Monel®, Tantalum and Nickel.

Specification Availability
 ASME BPE,
 BS4825-3, BS6362,
 DIN32676,
 ISO1127, ISO2037,
 ISO2852,
 SMS3008, SMS3017.

Manufacturing Capability
 Capability to manufacture small to large volumes.
 State of the art electron beam welding.
 Fast-track manufacturing for urgent requests.



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